

Historic, Archive Document

Do not assume content reflects current
scientific knowledge, policies, or practices.

A31.3
R31D

UNITED STATES
DEPARTMENT OF AGRICULTURE
LIBRARY



BOOK NUMBER
882437

A31.3
R31D

X DEVELOPMENT OF A LONG RANGE PROGRAM FOR THE GREAT PLAINS ;

POLICY STATEMENTS X

Agricultural Research Service

Research Needs

To provide a basis for intelligent action on problems facing farmers in the Plains region, much additional research will be needed. Perhaps the first need, however, is to inventory and summarize the research results which are now available, and to make full use of them in guiding the programs which are undertaken.

In the areas which are physically adapted for continuous crop production research should be directed toward stabilizing and improving the soil, the crop yields and the income expectancy, and toward building reserves to carry over the drought years. In the areas with soils unsuited for arable farming intensified research is needed to guide the shifting into grazing and livestock uses, and to prevent recurrence of distress caused by cropping unsuitable land in high rainfall years.

The following listing indicates some of the problems on which further research is needed:

- I. Research mostly applicable to dry farming areas suitable for crop production.
 1. Evaluation of climatic factors influencing crop production in the Plains.
 2. Wind and water erosion control.
 3. Economic studies of costs and returns of various practices to control or prevent erosion and to conserve moisture.
 4. Moisture conservation.
 5. Improvement of physical properties of soils for sustained crop production.
 6. Determining the soil fertility and fertilizer requirements for profitable crop production under limited moisture conditions.
 7. Economic studies of the problems involved in developing and managing reserves to withstand recurring drought periods.
 8. Appraisal of financial condition of farmers in the Great Plains.

882107

II. Research mostly applicable to the higher risk areas.

1. Range and grassland research should be strengthened in the following fields:
 - a. Breeding and selection, including evaluation of introductions, of productive grasses and legumes that are tolerant to heat, drought, and cold, that have disease resistance, that are readily established and persistent.
 - b. Improvement of methods for reseeding and establishing stands.
 - c. Evaluation of grazing management practices, including the rotation grazing of a given species and the seasonal grazing of different species for maximum sustained grazing use of lands.
 - d. Development of improved practices for water distribution, infiltration, gully control, and moisture use and conservation.
 - e. Control of brush and weeds.
 - f. Evaluation of legumes under dry land pasture and range conditions.
 - g. Evaluation of use of commercial fertilizer on reseeded pasture and on native range lands.
 - h. The evaluation of available long-time weather data and range composition to determine range carrying capacities and to guide land use.
 - i. Development of supplemental feed supplies.
 - j. Evaluation of factors that prevent the maximum utilization or forage loss of range lands.
 - k. Evaluation of rotations of grass and tilled crops to determine the conditions under which grass lands can be put into tilled crops for varying periods of time.
2. Appraisal of long range income prospects of alternative farming systems in different parts of the plains.

3. Study of the evolution of land ownership patterns in marginal crop land areas.
4. Farm tenure problems.
5. Appraisal of adaptability of presently available credit arrangements to Great Plains conditions.

III. Research on irrigation and other water problems.

Irrigation from water storage reservoirs is or can be made available to some areas in the Great Plains. Pump irrigation from groundwater storage also is feasible on a limited acreage. One needs to recognize, however, that even maximum development of irrigation potentialities will involve a very small percentage of the total crop land. Irrigation, however, can supplement dry land farming and ranching in significant ways. Studies will need to be undertaken to determine how this can be done most effectively.

1. Studies of the place of irrigation development in stabilizing agricultural incomes in the Great Plains.
 - a. Careful and objective analysis of any proposed extensive irrigation developments.
 - b. The economic possibilities of small water facilities on individual farms and ranches, or on comparatively small groups of farms.
 - c. How, to what extent, and under what conditions does, or can, irrigation of the medium to large-scale project type stabilize the operations and incomes of adjacent dry land and grazing areas, particularly during drought periods? With what economic results, including costs in relation to benefits attained?
 - d. The needs and possibilities of improving water laws in the Great Plains States.
2. Research on many of the physical problems encountered in irrigated areas will need to be intensified.
 - a. The water needs of the important crops and the relationships of soil moisture to yield of crops, particularly as related to the different stages of growth.

- b. Development and improvement of methods of water application.
 - c. Determination of the fertility needs of irrigated soils.
 - d. Improvement of soil aeration, soil permeability, and infiltration.
 - e. Salt and alkali problems in irrigated soils.
 - 3. Utilization of ground water.
 - 4. Hydrologic Research.
 - a. The hydraulics of structures for conserving soil and water.
 - b. The nature, origin, and control of sedimentation in reservoirs, streams and valleys.
 - c. The hydrologic characteristics of agricultural areas.
- IV. The role of group organization in meeting local problems.
- 1. Study of effects of taxation.
 - 2. Administration of local government.
 - 3. Local resource districts.

Regulatory Measures

A number of measures are available, or perhaps can be adapted, for influencing the use of land in the Plains. Most of them would have to be undertaken by State and local units of government. Among these measures are rural zoning, soil conservation district land-use ordinances, wind erosion districts, grazing associations, easements and restrictive covenants, acreage allotments and incentive payments. Group action along some of these lines might be helpful in preventing undesirable use of lands that have been restored; other devices could be used to help stabilize land uses after restoration; still others could help bring about needed changes in land use and in farming.

- 1. Rural zoning.

The use of land may be regulated by zoning ordinances creating various types of districts with differing but uniform regulations applied in each type of district. Zoning is used primarily to

protect an area from encroachment by a less desirable use. Therefore, it could be used to keep certain lands in grass, either before an area is damaged or after a desirable land-use program has been established.

2. Soil Conservation Districts

District land-use regulations may be either positive or negative. That is, they may prohibit the use of land in a specified harmful way, or they may order the proprietor to carry out certain practices. The regulations may require special methods of cultivation, contour plowing, strip cropping, crop rotation, terracing, and the shifting of steep or erodible land from cultivation into trees or grass.

3. Easements and restrictive covenants.

The landowner, in return for payments or other considerations, may agree to restrict the future use of his land in one of two ways:

- a. By a formal conveyance of an easement restricting future land uses, or
- b. By a contractual promise in writing, a restrictive covenant, in which the owner agrees to restrictions on the future use of land.

These measures could be used to prevent plow-up of unsuitable land after payments had been made for conversion to grass under a conservation program.

4. Grazing associations or districts.

The laws of a number of Great Plains States provide for cooperative grazing associations.

Federal Extension Service

The extension service programs and activities with respect to the Great Plains area, as in all other areas, are directed to aiding the farmers and ranchers to deal most effectively with the problems facing them. This responsibility includes, of course, educational assistance in recognizing and analyzing problems that are of major significance. It also includes developing an awareness of where and how various specific types of assistance may be obtained in coping with appropriate types of problems.

Such educational services and counsel are based on both applicable research and observed practical experience. It involves rendering direct counsel to individual farmers with their specific farm problems and also counselling with respect to groups of farmers organizing for collective action where the need for such action is clearly indicated.

In connection with the problems of the Great Plains area now experiencing severe drought and soil blowing, extension programs have featured intensive educational work on the most effective ways of reducing the adverse effects of such conditions to the minimum. They have stressed retention of grass cover, adaptability of land for cultivated vs. non-cultivated uses, practices which would conserve the maximum amount of moisture in the soil, practices to protect uncovered soil from blowing insofar as possible, controlled grazing, and a number of other such items of direct significance.

However, counteracting forces, most of which have been referred to in the report of the Soil Conservation Service to the Secretary, have more than offset the best efforts of the Extension Service and all other agencies having programs of assistance as evidenced by the conditions currently prevailing in the area. The Extension Service will, of course, continue to do everything within its power to assist the farmers and ranchers of the area adapt their operations in such a way as to minimize the type of difficulty now being experienced. It will also be glad to render educational support to any programs directed to speeding up necessary adjustments.

Soil Conservation Service

The experience of those farmers who successfully weathered both of the droughts of the '30's and the '50's is a guide to the development of a stable agriculture for the Southern Great Plains.

The farmers who have protected their soil from damage and had reasonable stability during the recent drought have followed most or all of the practices listed below:

1. They have utilized only the best soils (deep-hard lands) in areas of sufficient rainfall for cropland and have conserved the moisture by appropriate contour or other tillage practices.
2. They have adopted a cropping system that produces heavy residue.
3. They have kept as much vegetative cover on the land as possible.
4. They have stubble-mulched when working the land for the next crop.

5. They have resorted to emergency chiseling or listing when the crop cover was gone and the land threatened with blow.
6. They have managed their range land judiciously by keeping enough grass to assure ground cover for protection from wind erosion.

Out of these experiences come the following fundamentals in the use of this area to reduce the wind erosion hazard to a minimum and maintain a stable agricultural economy for the region:

1. Cropland Program.

- (1) Cultivate only the soils possessing the proper topography, slope, depth and texture, and lying within a rainfall area, that will support cultivated crops.
 - a. Return to grass those areas now in cultivation not suitable for cultivation.
 - b. Break out no new land for cultivation until after it has been determined that it falls within an arable land class.

This land use objective follows the concept of using land within its capabilities and treating it according to its needs for protection and improvement. To carry this land use objective into action throughout the area will require the completion of soil surveys and the classification of the land. The Soil Conservation Service has the authority to conduct the needed surveys. Approximately 40 percent of the land in farms now has surveys. The work should be completed on land now in cultivation first and the entire area finished as rapidly as funds and personnel will permit.

Determinations of land suitability or the development of the land capability classification should be carried out in cooperation with the local people and be based upon the soil survey. This type of cooperation is already a part of the program in soil conservation districts within the area.

- (2) Specific cropping and structural practices adapted to the land need to be speedily applied.
 - a. Crops adapted to local, environmental conditions should be utilized in proper combinations and patterns and managed in such a way that will give protection to the topsoil from wind and water erosion the year around.
 - b. The cropping pattern should include the growing for storage on the farm of a reserve of feed crops.

- c. Stubble mulch cultivation should become a part of the cropping system.
- d. Irrigation water available locally from wells should be used to supplement seasonal rainfall and applied in accordance with requirements of irrigated plants.
- e. Water conservation practices, such as contouring, terracing and strip cropping, should be applied where practical and needed.

2. Range Land Program.

- (1) Use and manage the permanent grass lands of the area so as to restore and maintain climax plant cover on the various range sites. This includes developing:
 - a. Facilities such as fencing and livestock water to develop proper degree of grazing use.
 - b. Apply practices such as water spreading, gully control, brush eradication and reseeding, where needed, to supplement forage management.
 - c. Utilize supplemental feeds to assure proper livestock nutrition.

The above-described procedure for adopting cropping systems and applying vegetative and structural practices to the land has been adopted by the soil conservation districts. They have been found to be a responsible local agency through which this work can be carried out. The Soil Conservation Service has assisted soil conservation districts through soil surveys, farm and ranch conservation plans, and on-site technical assistance in adapting practices to land conditions to help with this work.

It is proposed that the Department and the Service intensify the efforts in the area to (1) complete soil surveys in cooperation with the State Experiment Stations, (2) provide on-site assistance to a larger number of farmers and ranchers.

The previously described physical aspects of a long range program in the Southern Great Plains have been difficult to apply and will continue to be because of certain economic and social conditions that exist within the area. Adjustments in these conditions will greatly speed up adoption of soil and water conservation programs

that will bring about a stabilized agriculture. Some of these conditions involve present farm programs carried out by the Department of Agriculture. These programs were devised mainly for areas where farming is well established and where climatic and physical land conditions are reasonably stable. Adjustments in these programs to fit this area subject to periodic droughts would speed up the establishment of a long range program in this area.

Some of the economic and social factors which limit the speed with which a long range conservation program can be applied are listed as follows:

- (1) A land ownership pattern in some areas which discourages using land within its capabilities and which does not permit an adequate standard of living for those operating the land.
- (2) Program features affecting the economy of the area which need study with regard to better adjustment to aid in bringing about a stable agriculture are:
 - a. Acreage allotments based solely on a historical base.
 - b. Cost sharing for temporary conservation practices on cropland unsuited for cultivation.
 - c. Crop insurance pertinent to crops on land unsuited to cultivation.
 - d. Price supports on crops whether or not grown on land suitable for cultivation.
 - e. Public and private credit to landowners and operators whether or not land is suitable for cultivation.

Because the Dust Bowl is a region which can be described as a geographic area and because the solution to its agricultural problems is extremely complex, it is recommended that consideration be given to making this area a special project. A special Dust Bowl project can be dealt with individually from both a legislative and appropriation point of view. Also, adjustments in the present farm programs can be readily made if they are designated to apply to a specific geographic area.

Agricultural Conservation Program Service

The following policies are recommended for carrying out the Agricultural Conservation Program functions:

1. Continue emphasis on assisting farmers in the installation of enduring conservation practices. There has been a substantial trend in this direction during the past several years.
2. Continue to offer practices such as emergency tillage which have shorter time benefits only when essential to meeting the needs which develop under severe, adverse weather conditions. These practices would be retained in a standby position for immediate use where needed.
3. Continue provision in the National Bulletin for adoption of (a) special county practices and (b) the development of new practices to meet local conditions, such practices to be developed by county ASC committees and representatives of agricultural agencies locally, with approval by the Washington office.
4. Continue using the services of employees of the SCS to make necessary "need and practicability" determinations for the installation of practices on farms as well as for the technical services required in the installation and certification of performance. This will help to assure that only appropriate practices be installed on various soil types in the area.
5. Continue to urge States, that in making distribution to Counties of their state allocation of funds that this be done so far as possible on the basis of the relative conservation needs of each county.
6. Continue to encourage prompt action by the farmer by (a) advancing cost shares in the form of needed conservation materials and services, and (b) continuation of the assignment provision.

In changing cropland to a permanent vegetative cover in this area, research data indicates that best results are usually obtained by the preparation of the seed bed and the growth of a temporary cover in one year, preparatory to the seeding of native and introduced species of adapted vegetation in the subsequent season. Also, it may be several years later before any returns are received from this land by the farmer. Since the ACP operates under authorities which limit commitments to a single program year, it is not possible to enter into a long term contract. If cost-sharing is to be a feature of a long range program, appropriate authorization for commitments beyond one year likely will be needed.

ACPS believes it highly desirable that any plan for long term land use adjustments be developed at the local level. Such an approach would best achieve the local support and cooperation which is absolutely essential to the success of any undertaking designed to change the pattern of the agricultural economy of the area. Coincidental with the development of such plans there must also be unanimity of approach among the local representatives of Federal and State agricultural agencies.

It was indicated at the conference that advantage should be taken of the present situation to intensify the study of problems of the area through some sort of interagency or inter-departmental committee. This should be productive of much good.

It is understood that it is commonly accepted in the area that, after two successive drought years, serious wind erosion problems will almost certainly be encountered in the next January - May period. It would seem, therefore, that it would be most effective to form a standing committee whose continuing responsibility would be to alert local and National officials to the potential danger during the second season, assist in developing any possible remedial measures that can be taken during the summer and fall of the second dry year, and aggressively press for the formulation of needed and timely temporary programs. Prevention is often more effective and frequently much more economical than to attempt to correct a bad situation after it has developed.

Commodity Stabilization Service

Some of the agricultural problems of severe wind erosion areas are peculiar to such areas. In attempting to deal with these problems it appears appropriate that local people who have a vital interest in the area are the proper persons to analyze the problems and suggest practical solutions.

Local people need to agree on the problems and have responsibility for their solution. Programs developed at higher levels are not accepted as favorably as locally developed programs.

It is suggested that the national government request the Governors of the States involved to take the leadership in establishing special committees at the State and county levels to work on wind erosion area problems.

These committees should be composed of State agricultural agencies, Federal agricultural agencies, general farm organizations, agricultural commodity organizations, business organizations with interests in agriculture, outstanding farmers and others. The committees should encourage suggestions from individuals and from other groups for committee consideration.

The county committees should analyze the agricultural problems in their counties. They should establish objectives to be achieved in agriculture in the county. This should include a description of the type of agriculture that should be carried on in the county considering all the problems and their possible solutions. From this point they should suggest means by which the objectives could be reached. The suggested solutions should be presented without regard to present agricultural legislation at either local, State or national levels and without consideration of present agency responsibilities and assignments.

Each county committee should report to the State committee.

A State committee report covering a summary of the county report and the recommendations of the State committee should be prepared. The representative of each Federal agency on the committee shall have the responsibility to forward a copy of the State report to his agency in Washington.

An assignment to coordinate the efforts of all the agencies in assisting in the solution of the problems in the area should be made to an individual or a committee in the Department.

The Agricultural Stabilization and Conservation Committees administer in the field the allotment, marketing quota, and some of the price support programs which are assigned to the Commodity Stabilization Service. Representatives from these committees can be helpful on the suggested study committees.

The place where CSS could have an influence in the situation would be in connection with acreage allotment programs and in influencing the use of acreages diverted out of allotment crops.

Provisions might be put into the eligibility for price support which would result in encouraging farmers to use diverted acreage for growing wind resisting cover crops. Establishing a limit or allotment on the total acreage of so-called depleting crops, which would have to be complied with to receive price support, would indirectly have this result. County ASC Committees can also suggest to farmers that they use their diverted acreages in a manner which will reduce the wind erosion hazard.

The law with respect to wheat allotments provides that small adjustments may be made in county allotments for the promotion of soil-conservation practices. In the procedure for establishing farm allotments, county ASC committees can adjust wheat history up or down within specified limits in arriving at the wheat base, taking into consideration the factors of crop rotation, soil type, and topography.

Agricultural Credit Services

In meeting credit needs, the policy will be to rely on private and cooperative lenders to the fullest extent permitted by the type of risks that they are in a position to accept. Such sources will include banks, insurance companies, institutions under the supervision of the Farm Credit Administration, individuals, and various other lenders. These lenders will be encouraged to become fully informed of the problem and the program and to make special studies of the risks involved and of lending policies and practices which will enable such lenders to undertake on a sound basis a maximum share of the financing required.

Farmers Home Administration

It will be the policy of the Farmers Home Administration to refrain from the making of new loans for the cultivation of land subject to wind erosion and drought where the land has been determined unsuitable for crop production by land inventories made by Soil Conservation Service, Agricultural Conservation Service, Agricultural Research Service, or other agencies of the Federal or State governments including local organizations such as a zoning district. In the future extension of credit to present borrowers of the Farmers Home Administration, if it is determined that some of their land which is in cultivation has been classified as unsuitable for crop production, it will be the policy to work out with such borrowers an orderly program for changing their type of operation to one which is in keeping with the recommended use of their land.

As a general rule, loans will be made only to the actual operators of farms.

Farm Credit Administration

The Farm Credit Administration has expressed its intention and desire to cooperate in this program, assisting the banks, corporations and associations under its supervision in developing sound and constructive lending practices for the area. In appropriate instances, and within the limits of its resources, the Farm Credit Administration may also participate in special studies of the financial needs of farmers, the risks involved, and means of improving the credit services of the Farm Credit system.

Rural Electrification Administration

REA as a lending agency responsible for the security of its loans has a vital interest in the stability and financial status of agriculture, and the agency is concerned with the drought which presently affects the southern portion of the Plains. Section 12 of the Rural Electrification Act empowers the

Administrator to extend the time of payment of interest or principal of any loans for not more than five years after such payment shall become due. Accordingly, REA will extend the time of payment of interest or principal by a borrower who is unable to achieve the revenues contemplated at the time the loan was made through circumstances beyond the borrower's control, on the basis of a finding that such extension is necessary in order to enable the borrower to conduct its affairs in an efficient manner, render adequate service, and meet its total obligations to the government. This measure is a temporary means of alleviating the adverse affect of certain unforeseen and uncontrollable events, such as crop failures, on the repayment ability of REA electric borrowers. In the case of telephone borrowers, the margins of feasibility are generally so small that an extension of the time of payment of principal or interest could necessitate an increase in the rates charged subscribers; this result would, of course, be undesirable. The fact remains that the indebtedness of REA borrowers must, under the provisions of the Rural Electrification Act, be paid, and the ultimate fulfillment of this requirement depends on stable, prosperous agriculture in the areas which REA borrowers serve.

Section 5 of the Rural Electrification Act authorizes loans for the purpose of financing electrical wiring of rural buildings and the purchase and installation of electric and plumbing appliances and equipment. REA has loaned \$4.5 million in the five-state area for these purposes, and will continue, within the limits of congressional loan authorizations, to make loan funds available for this purpose where needed.

In considering loans to rural electric and rural telephone systems, REA has given and will continue to give careful consideration to present and prospective developments which will retire land from cultivation or agricultural use, or which will change the density or location of settlement. REA has not, nor will it in the future, make loans to serve areas which it is known will be inundated by the construction of dams, or which will be acquired as a part of federal forests. REA has also refrained from financing facilities to serve submarginal areas which are being retired from intensive agricultural use through land classification, rural zoning or other means. In the event that the long-range agricultural program for the Great Plains should include rural zoning plans, REA will give thorough attention to such plans and their effect on loan feasibility in considering applications for additional loans from rural electric and rural telephone systems in the Great Plains area.

Federal Crop Insurance Corporation

The Federal Crop Insurance Corporation is presently offering insurance in 65 of the some 140 counties in the area outlined by SCS in their April 1 report to the Secretary, as the area where some land damage by wind erosion has occurred. The following actions are recommended for consideration in adjusting Federal Crop Insurance Corporation operations in the drought area of the Southern Great Plains:

1. The present wheat insurance contract provides for progressive coverage by stages. For the first stage, or substitute crop stage which covers all acreage released and planted to a substitute crop, the coverage is 50 percent of the maximum or harvested coverage. For the second stage, or unharvested stage which covers any acreage not harvested and not planted to a substitute crop, the coverage is 90 percent of the harvested coverage. For some time in certain counties in the Southern Great Plains area, particularly in southwest Kansas and southeast Colorado there have been complaints about the 50 percent reduction in the harvested coverage when an insured plants another crop on insured wheat acreage that has been destroyed prior to harvest. This problem is most acute when there is considerable abandonment of winter wheat due to drought. Insureds have repeatedly requested that Federal Crop Insurance Corporation release such acreage for the planting of grain sorghums and pay off at 90 percent of the harvested coverage instead of at 50 percent as provided in the contract. This provision of reducing the coverage when a substitute crop is planted has been criticized by some in this area because they say it discourages planting of a grain sorghum crop on such land for wind erosion control purpose, and farmers will summer fallow this land which they say is a poor farming practice.

To alleviate this condition the insurance contract could be revised for this area to provide that the coverage be the same for all acreage destroyed prior to harvest and not harvested regardless of whether a substitute crop is planted. The coverage for such unharvested acreage would be established somewhere between the present 50 percent and 90 percent stages. Of course, those insureds who never plant grain sorghums will be opposed to such a change.

2. It is recommended that unless moisture conditions improve in this area that FCIC discontinue selling insurance for the 1955 crop year in all 65 counties in the area somewhat earlier than the presently established closing date for selling which is August 31.
3. There are certain counties in this area in which SCS has classified very little if any land as being adaptable for producing wheat. In certain other counties in the area the moisture conditions have been such for the past several years that very little wheat has been produced. Obviously the risk in these counties is quite high and there is considerable doubt whether farmers will pay the necessary premium rate when moisture conditions improve. It is recommended that FCIC discontinue selling additional insurance contracts in these counties for the 1955 crop year and it might be desirable to withdraw insurance completely from these counties at the earliest opportunity.

4. Unclassify as ineligible for insurance any land classified by SCS as Types VI and VII that is now insurable. It has always been the policy of the Corporation to unclassify land where the risk of loss is so excessive it would be impracticable to insure at the premium rate that would be required. In fact, FCIC has unclassified large acreages of land in this area and in several counties has as much as from 50 to 70 percent of the farmland unclassified. FCIC has requested a report from its field underwriters for this area regarding any Class VI and VII land on which insurance is offered. FCIC will take immediate steps to unclassify all land that is not now unclassified which SCS classifies as unadapted to the growing of the insured crops.





